		Application No.	Applicant(s)
Notice of Allowability		10/735,711	TONE, TAKEHARU
		Examiner	Art Unit	
		Quang N. Vo	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *9/19/07*.

2. ☒ The allowed claim(s) is/are *44*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All   b) ☐ Some*   c) ☐ None   of the:

       1. ☒ Certified copies of the priority documents have been received.

       2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

       3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

       1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____ .

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☐ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

KING Y. POON
SUPERVISORY PATENT EXAMINER

The following is an examiner's statement of reasons for allowance:

Claims 1-8, 14-22, 36-44 of the current application are allowed for the reason of none of prior art of record teaches nor suggests "a data memory configured to store characteristic definition data defined for at least one data attribute; a plurality of processing elements each configured to select a set of characteristic definition data from said characteristic definition data from a data stream to be processed and to process data from said data stream according to said set of characteristic definition data, wherein each processing element is configured to perform a same operation according to a same instruction code; and a process control apparatus configured to control at least one of: storing process control data for controlling said plurality of processing elements, imparting an operation instruction set based on said process control data to each of said plurality of processing elements in common, imparting said data stream to each of said plurality of processing elements, sending out said characteristic definition data stored in said data memory to each of said plurality of processing elements, and outputting processed data from each of said plurality of processing elements."

Claim 9 of the current application are allowed for the reason of none of prior art of record teaches nor suggests "a global register configured to store a conversion program set; a processor array comprising a plurality of processing elements, each of said plurality of processing elements including: an input data register configured to store data to be conversion processed, a plurality of character registers each configured to store conversion characteristic definition data, an attribute register configured to store

attribute data for said data to be conversion processed, an output data register configured to store processed data acquired by conversion processing, and a calculator configured to select a set of conversion characteristic definition data for subsequent storage in said character registers, said conversion characteristic definition data being assigned to attribute data stored in said character registers among conversion characteristic definition data corresponding to attribute data stored in said character registers, and to perform conversion processing on said data to be conversion processed according to a conversion operation instruction set based on said conversion control program and according to conversion characteristic definition data stored in said character registers; a global processor configured to control at least one of: writing a data stream to be conversion processed into said input data register included in each of said plurality of processing elements, sending out said conversion characteristic definition data to said character registers, imparting an operation instruction set based on said conversion process control program to each calculator in said plurality of processing elements in common, and outputting processed data from each of output registers; and a program memory configured to store a process program set for said global processor to perform said control."

Claims 10-12 of the current application are allowed for the reason of none of prior art of record teaches nor suggests "a processor array comprising a plurality of processing elements, each of said plurality of processing elements including: an input data register configured to store image data to be conversion processed, a plurality of character registers each configured to store gamma conversion characteristic definition

data read out from said data memory, an attribute register configured to store attribute

data describing image characteristics based on said image data, an output data register

configured to store processed data acquired by conversion processing, and a calculator

configured to generate and to subsequently store in said attribute register attribute data

of image data stored in said input data register according to image data stored in said

input data register and according to image data assigned to picture elements in a

vicinity of noteworthy image data, and to perform conversion processing on said data to

be conversion processed according to gamma conversion characteristic definition data

stored in said plurality of character registers; a global register configured to store

attribute detection control data for controlling generation of said attribute data in said

calculator and of conversion control data for controlling said gamma conversion in said

calculator; a processor configured to control at least one of: writing image data on one

raster into said input data register included in each of said plurality of processing

elements, writing said attribute detection control data and said conversion control data

into said global register, imparting an operation instruction set to said calculator based

on said attribute detection control data, sending out said conversion characteristic

definition data corresponding to each attribute data stored in said data memory to said

character registers, imparting an operation instruction set to said calculator based on

said conversion control data, and outputting conversion processed data from said

output data register; and a program memory configured to store a conversion program

set for said processor to perform said control."

Claims 13 of the current application are allowed for the reason of none of prior art

of record teaches nor suggests "a data memory configured to store conversion

characteristic definition data for defining gamma conversion characteristics of image

data for each attribute of said image data; a global register configured to store an

attribute detection control program for controlling generation of attribute data describing

image characteristics of said image data and a conversion control program for

controlling gamma conversion on said image data; a processor array comprising a

plurality of processing elements, each of said plurality of processing elements including:

an input data register configured to store image data to be conversion processed, a

plurality of character registers each configured to store conversion characteristic

definition data, an attribute register configured to store attribute data of said image data

to be conversion processed, an output data register configured to store processed data

acquired by conversion processing, and a calculator configured to: generate and

subsequently store in said attribute register attribute data of image data stored in said

input data register according to an operation instruction set to said calculator based on

attribute detection control data stored in said global register, image data stored in said

input data register, and image data assigned to picture elements in a vicinity of

noteworthy image data, select and subsequently store in said attribute register

conversion characteristic definition data assigned to attribute data stored in said

character registers among conversion characteristic definition data corresponding to

attribute data stored in said data memory, and perform gamma conversion processing

on said data to be conversion processed stored in said input data register according to

a conversion operation instruction set based on said conversion control program stored in said global register and conversion characteristic definition data stored in said character registers; a global processor configured to control at least one of: writing an image data stream into said input data register included in each of said plurality of processing elements, imparting an operation instruction set based on an attribute detection control program set stored in said global register to each calculator in said plurality of processing elements in common, sending out said conversion characteristic definition data corresponding to each attribute data stored in said data memory to said character registers, imparting a further operation instruction set based on a conversion control program stored in said global register to each calculator in said plurality of processing elements in common, and outputting conversion processed data from said output data register; and a program memory configured to store a global control program set for said global processor to perform said control."

Claims 23-30 of the current application are allowed for the reason of none of prior art of record teaches nor suggests "first means for storing characteristic definition data defined for each data attribute; a plurality of first means for selecting a set of characteristic definition data from said characteristic definition data stored in said first means for storing corresponding to each data and each data attribute out of a data stream to be processed, and for processing said data according to said set of characteristic definition data, wherein each of the plurality of first means for selecting performs a same operation according to a same instruction code; and second means for storing process control data for controlling said processing of said each data, for

imparting an operation instruction set based on said process control data to said first

means for selecting in common, for imparting each of said data stream to each of said

means for selecting, for sending out said characteristic definition data stored in said first

means for storing corresponding to said each attribute data stored in said first means for

storing for each of first said means for selecting, and for outputting processed data from

said first means for selecting."

Claim 31 of the current application are allowed for the reason of none of prior art

of record teaches nor suggests "first means for storing characteristic definition data for

defining characteristics of data processing for attribute data; second means for storing

for storing a conversion program set; a plurality of means for processing, each

including: third means for storing data to be conversion processed, fourth means for

storing conversion characteristic definition data, sixth means for storing attribute data for

said data to be conversion processed, fifth means for storing processed data acquired

by conversion processing, and first means for selecting a set of conversion

characteristic definition data to be subsequently stored in said fourth means for storing,

said conversion characteristic definition data being assigned to attribute data stored in

said fourth means for storing among conversion characteristic definition data

corresponding to attribute data stored in said fourth means for storing, and for

performing conversion processing on said data to be conversion processed stored in

said third means for storing according to a conversion operation instruction set based

on said conversion control program and to conversion characteristic definition data

stored in said fourth means for storing; means for controlling writing a data stream to be

conversion processed into said third means for storing included in said means for processing, for sending out said conversion characteristic definition data stored in said first means for storing corresponding to said attribute data to said fourth means for storing, imparting an operation instruction set based on said conversion process control program stored in said second means for storing to said first means for selecting in common, and outputting processed data from each of said third means for storing; and seventh means for storing a process program set for said means for controlling to perform said control."

Claims 32-34 of the current application are allowed for the reason of none of prior art of record teaches nor suggests "first means for storing conversion characteristic definition data for defining gamma conversion characteristics of image data for each attribute of said image data; a plurality of means for processing, each including: second means for storing image data to be conversion processed, third means for storing gamma conversion characteristic definition data read out from said first means for storing, fourth means for storing attribute data describing image characteristics revealed by said image data, fifth means for storing processed data acquired by conversion processing, and means for generating and for subsequently storing in said fourth means for storing attribute data of image data stored in said second means for storing according to image data stored in said second means for storing and according to image data assigned to picture elements in a vicinity of noteworthy image data, and for conversion processing said data to be conversion processed stored in said second means for storing according to gamma conversion characteristic definition data stored in

said third means for storing; sixth means for storing attribute detection control data for

controlling generation of said attribute data in said means for generating and for storing

conversion control data for controlling said gamma conversion in said means for

generating; means for controlling at least one of: writing image data on one raster into

said second means for storing; writing said attribute detection control data and said

conversion control data into said sixth means for storing, imparting an operation

instruction set to said means for generating based on said attribute detection control

data, sending out said conversion characteristic definition data corresponding to each

attribute data stored in said first means for storing to said third means for storing,

imparting an operation instruction set to said means for generating based on said

conversion control data, and outputting conversion processed data from said fifth

means for storing; and seventh means for storing a conversion program set for said

means for controlling to perform said control."

Claim 35 of the current application are allowed for the reason of none of prior art

of record teaches nor suggests "first means for storing conversion characteristic

definition data for defining gamma conversion characteristics of image data for each

attribute of said image data; second means for storing an attribute detection control

program for controlling a generation of attribute data describing image characteristics

related to said image data and a conversion control program for controlling gamma

conversion on said image data; a plurality of means for processing, each including: third

means for storing image data to be conversion processed, fourth means for storing

conversion characteristic definition data, fifth means for storing attribute data of said

image data to be conversion processed, sixth means for storing processed data

acquired by conversion processing, and means for generating and for subsequently

storing in said fifth means for storing, attribute data of image data stored in said third

means for storing according to an operation instruction set to said for generating based

on attribute detection control data stored in said second means for storing, image data

stored in said third means for storing, and image data assigned to picture elements in a

vicinity of noteworthy image data, for selecting and for subsequently storing in said fifth

means for storing conversion characteristic definition data assigned to attribute data

stored in said fourth means for storing among conversion characteristic definition data

corresponding to attribute data stored in said first means for storing, and for performing

gamma conversion processing on said data to be conversion processed stored in said

third means for storing according to a conversion operation instruction set based on

said conversion control program stored in said second means for storing and

conversion characteristic definition data stored in said fourth means for storing; means

for controlling at least one of: writing an image data stream into said third means for

storing, imparting an operation instruction set based on an attribute detection control

program set stored in said second means for storing to each calculator in common,

sending out said conversion characteristic definition data corresponding to each

attribute data stored in said first means for storing to said fourth means for storing,

imparting a further operation instruction set based on said conversion control program

stored in said second means for storing to each calculator in common, and outputting

conversion processed data from said sixth means for storing; and eighth means for

storing a global control program set for said means for controlling to perform said control."

The closest prior art Yanaka (US 6,115,138), discloses an image forming apparatus for printing and forming an image on a printing medium on the basis of an image data stored in a memory portion, which can be adapted to a plurality of kinds of input image data types.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang N. Vo whose telephone number is 5712701121. The examiner can normally be reached on 7:30AM-5:00PM Monday-Friday.
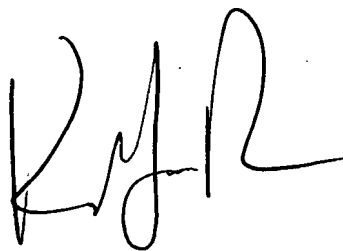
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Y. Poon can be reached on 5712727440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Quang Vo

Quang N. Vo   9/27/07
Patent Examiner

KING Y. POON
SUPERVISORY PATENT EXAMINER